

REMOVAL OF A NEUROMA; FOLLOWED BY DIS- APPEARANCE OF ANÆSTHESIA OF FOUR- TEEN YEARS' STANDING.¹

By G. L. WALTON, M.D.,

Clinical Instructor in Diseases of the Nervous System, Harvard University.

THE case I have to report is not only interesting on account of the late appearance of acute symptoms resulting primarily from an injury to a peripheral nerve, but also as illustrating the important practical fact that no limit can be set to the time during which complete anæsthesia may exist after such an injury and yet be relieved by operation. Tillaux has already reported a case of similar duration, and Bowlby has reported a case in which anæsthesia following section of a nerve lasted twelve years, but improved to a certain point eight months after the secondary suture, and at the time the case was reported it was still improving. This author states that improvement in the motor sphere, even, may be hoped for at least two and one-half years after injury, perhaps considerably longer.²

CASE (referred to me by Dr. Chadburne).—C. B., aged twenty-nine, single, an American, is a professor of astronomy in Beloit University, Wisconsin, and director of the observatory. He consulted me a little over a year ago on account of a numbness and tingling which had appeared four months earlier in the fingers of the left hand, and spread gradually to the shoulder, receding under electrical treatment to the wrist, where it had remained stationary for a month. There was also a dull pain extending up from the fingers. He had suffered from insomnia during the past year, and was worn out from having worked hard for five years without intermission. The family history was neu-

¹Read at the meeting of the American Neurological Society, September 22d, 23d and 24th, 1891.

² Bowlby, "Injuries and Diseases of the Nerves," p. 204. London, 1889.

rotic on the mother's side. There had been a similar attack of numbness in the feet five months earlier, which had disappeared in the last three weeks, but which had been complete while present, so that, for example, he could not tell the temperature of objects touching the feet. He had also, when I saw him first, an area of anæsthesia on the front of the right thigh the size of a small platter, and one on the right side of the chest somewhat larger. A loss of sensation, for which he expected no relief, had existed in the index finger of the left hand for fourteen years, since an injury to the nerve from a chisel cut.

Physical examination revealed a loss of sensation over the palmar surface of the left hand sufficient to prevent his recognizing the shape of objects held in the hand, though tactile sense was not completely lost, excepting on the index finger, where the anæsthesia was complete below the cicatrix. The anæsthesia extended to the wrist. The hand was sensitive to pressure everywhere except on the index finger, and moderate sensitiveness existed on the nerve trunks in the arm. There was no paralysis of any muscle, but the power of the hand as a whole was somewhat diminished. There was no atrophy or coldness, but some diminution in size and redness. The nails were normal. The cicatrix, about three-quarters of an inch in length, extended diagonally across the palmar side of the index finger, was linear, non-adherent, with no loss of substance, and was very sensitive to deep, and somewhat so to superficial pressure. The patient's general condition was fair only, the appearance being that of a somewhat neurasthenic person. There were no further local symptoms than those mentioned, no further disturbance of motion, sensation, nutrition, reflex or special sense. The urine was concentrated.

The patient was put on tonic treatment, including sulphate of strychnia—one thirtieth of a grain—and lithia water; out-of-door exercise, and generous, but digestible, diet advised. A mild galvanic current was also used. The patient was told that if improvement did not set in shortly, an operation would have to be considered. Improvement in general condition was apparent within two weeks, but the local symptoms remained unchanged. Dr. M. H. Richardson was therefore called in consultation and an operation was decided upon.

OPERATION.—An incision was made over the digital branch of the median nerve supplying the radial side of the

left index finger. An incision an inch in length was made, and a small neuroma found in the course of the nerve at this point, which, with one-half an inch of the nerve, was excised. Interrupted silk sutures—iodoform dressing—healing by first intention.

The neuroma was apparently one of the ordinary fibrous form, oval in shape, but was not examined under the microscope, as the patient wished to preserve it.

Recovery from the operation was speedy, the healing being by first intention.

Soon after this the patient went to Europe, returning three months later, reporting that the tenderness and pain had gradually lessened since the operation, and had entirely disappeared about ten days previously. Sensation was so far improved that objects in the hand were plainly distinguished, excepting by the index finger and thumb. The numb spot in the thigh had disappeared about five weeks after the operation, as well as that over the chest. The prickling and tingling about the thumb had also disappeared at about the same period.

There remained at this time a slight tactile anæsthesia on the ball of the thumb extending just beyond the first joint. He can distinguish the head from the point of a pin over this area, however, which he could not do before the operation. The area of complete anæsthesia on the index finger remained unchanged.

The exquisite sensitiveness to touch over the scar is replaced by a sensation "as if the numb half of the finger were laid upon the other half, and that half had a layer of nerves over it." The anæsthetic area is sensitive to cold, as it was not before. These symptoms led me to suspect that sensation was returning to the region supplied by the nerve from which the neuroma had been removed. A mild Faradic current was now applied daily and moderate massage practiced. Two weeks later the line of demarcation had shifted, considerably lessening the anæsthetic area, the line of paræsthesia following. Sensation in the thumb was now practically normal. In three days more the anæsthetic area was limited to a narrow tongue running from the scar to the end of the finger. This tongue soon shortened at both ends and within a week had almost disappeared, leaving only a slight superficial paræsthesia at one spot.

Four months after the operation, therefore, sensation had practically returned to the region which had been for fourteen years absolutely anæsthetic. The general condition was also markedly improved.

At this time the patient returned to Wisconsin. In a letter written five months later—that is, nine months after the operation—he writes: “You will be glad to know that your quondam patient is progressing finely; sleep well, eat well and my nervous system is as well as it was three years ago. I find I cannot endure quite as much physically as I could then, and I tire at things which did not then tire me; but, all in all, it has been a steady gain since I came back, and I think it is surely permanent.

“It takes that finger a long time to quiet down; it is very sensitive yet, especially to heat and cold, and once in a while this last Spring, when the arm would get chilled a little, there would be a little return of the old pain in the arm; only temporary, however, and there has been no return of the anæsthesia.

“My friends all say that I am not the same man who went away from here last summer.”

Last August, about a year after the operation, the patient came to my office looking stout and well. He stated that improvement had been continuous since his letter. He can now play the piano, which he could not do before the operation, and can row ten miles, using both hands with equal ease. He has no trouble in using fine adjustment, which he could not do before with that finger. The color of the skin over the index finger is normal, and it is now nearly as large as the other.

It is an open question how far the general improvement would have progressed under the rest and tonic treatment without operation, but it is apparent that this procedure not only relieved the reflex symptoms, but restored the function of the nerve after a period of fourteen years, a point of great importance in deciding the question of peripheral operation, inasmuch as it shows that, as regards anæsthesia, time alone as a factor in forming our opinion may be practically disregarded, where no other signs point to the hopelessness of operation.